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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of	)	
Guidelines for Evaluating	)	ET Docket No. 93-62
the Environmental Effects	)	
of Radiofrequency Radiation	)	

COMMENTS OF ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC. AND THE NATIONAL BROADCASTING COMPANY, INC.

The Association for Maximum Service Television, Inc. ("MSTV") and the National Broadcasting Company, Inc. ("NBC") hereby file comments to the Notice of Proposed Rulemaking, ET Docket No. 93-62, released in the above captioned docket on April 8, 1993 (the "Notice").

MSTV and NBC generally support the Commission's proposal to adopt the 1992 ANSI/IEEE standards[1/] for establishing permissible exposure levels to radio frequency ("RF") radiation insofar as they apply to television broadcasting. See Notice, at ¶ 1. MSTV and NBC believe that reasonable and prudent RF radiation standards should be adopted and maintained in order to protect the health of both the general public health and workers in communications industries. And, while it seems highly probable that the Commission's current RF radiation standards provide an ample measure of safety,[2/] revision of the 1982 standards to

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1/ "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields," ANSI/IEEE C95.1-1992.

2/ The ANSI/IEEE 1982 standard contains a ten-fold margin of safety; i.e., the 1982 standard set RF radiation exposure limits at levels ten times lower than those RF radiation fields generally assumed to produce adverse biological effects. As noted in the "Rationale" section of ANSI/IEEE C95.1-1992, "[n]o verified reports exist of injury to human beings or of adverse effects on the health of human beings who have been exposed to electromagnetic fields within the limits of frequency and SAR specified by previous ANSI standards, including ANSI C95.1-1982." ANSI/IEEE C95.1-1992, at 23; see also Comments of the IEEE-USACOMAR, ET Docket No. 93-62, at 1 (Nov. 10, 1993).

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incorporate new learning on the health effects of RF radiation will clearly serve the public interest.[3/] However, it is particularly important that RF radiation standards for television broadcasting be realistic, especially in light of the impending conversion to digital television broadcasting.[4/]

Although the Commission's proposal to incorporate the 1992 ANSI/IEEE standard is fundamentally sound, MSTV and NBC nevertheless wish to offer some suggestions as to how the Commission could best adapt the 1992 ANSI/IEEE standard to the broadcast television environment.

I. The Commission Should Adopt the Use of "Controlled" and "Uncontrolled" Environments for the Purpose of Establishing Exposure Standards.

One major change in the 1992 ANSI/IEEE standard is the use of two separate sets of permissible exposure limits. Under the ANSI/IEEE standard, lower permissible exposure limits for most of the frequency range covered will apply in "uncontrolled" environments in which individuals "have no knowledge or control of

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3/ MSTV and NBC disagree with those commenters who oppose continued reliance on the ANSI/IEEE RF radiation standards. See, e.g., Comments of the EPA, ET Docket No. 93-62, at 8 (Nov. 6, 1993) (urging adoption of NCRP guidelines). As the Commission has previously noted, ANSI guidelines are "scientifically based and widely accepted." In the Matter of Responsibility of the Federal Communications Commission to Consider Biological Effects of RF Radiation, 100 FCC Rcd 543, 551 (1985) (the "RF Radiation First Report and Order"). ANSI standards are the product of careful study, and reflect the considered judgment of experts from the private sector, the academy, and the public sectors. The Commission's reliance on the ANSI guidelines is appropriate. See Comments of the Department of Defense, ET Docket No. 93-62, at 2 (August 16, 1993).

4/ During the transition to digital ATV broadcasting, stations will have to erect and operate a second set of facilities -- in most instances at the same site as their current facilities. See In the Matter of Advanced Television System and Their Impact Upon the Existing Television Broadcast Service, (Second Report and Order), 7 FCC Rcd 3340, 3348-49, 3353-58 (1992).

their exposure." ANSI/IEEE C95.1-1992, at 12. Higher limits are permitted in "controlled" environments, which are defined as "locations where there is exposure that may be incurred by persons who are aware of the potential for exposure as a concomitant of employment, by other cognizant persons, or as the incidental result of transient passage." Id. at 9. The Commission seeks comment on the use of the "controlled"/"uncontrolled" environment dichotomy and suggestions on how it should be applied to specific telecommunications environments. Notice, at ¶ 13.

MSTV and NBC endorse the 1992 standard's use of "controlled" and "uncontrolled" environments. MSTV and NBC concur with "[t]he members of the Subcommittee IV [who] believe that the recommended [controlled environment] exposure levels should be safe for all." ANSI/IEEE 95.1-1992, at 23. Moreover, because some environmental standards have employed different exposure levels for workers and other members of the public, a two-tiered standard may achieve greater acceptance.

As the Commission noted, Notice, at ¶ 12-13, adoption of the controlled/uncontrolled classifications does not determine how these classifications will apply to particular environments. In the context of television broadcasting, four distinct environments exist: office, studio, transmitter, and remote pickup. See J. Cohen, "An Analysis of ANSI/IEEE C95.1-1992 Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," at 2 (August 3, 1993) (the "Report").[5/] In order to provide broadcasters with the necessary

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[5/] The Report was prepared for the National Association of Broadcasters and is available from the NAB, 1771 N Street, N.W., Washington, D.C. 20036.

guidance to enable them to comply with the new 1992 standards, MSTV and NBC wish to provide some suggestions regarding which broadcast television environments are "controlled" and which are "uncontrolled."

MSTV and NBC believe on balance that business offices are properly classified as uncontrolled environments. Office employees and the visiting public are not likely to be "persons aware of the potential for exposure" nor can exposure in the business office environment reasonably be classified "as the incidental result of transient passage." See Report, at 2.

Similarly, studios are also not infrequently occupied by "persons [not] aware of the potential for exposure." In consequence, the Commission should classify studios as uncontrolled environments.[6/] Report, at 3.

Transmitter buildings, accessible only to authorized personnel, are controlled environments. Towers supporting transmitting antennas are controlled environments when fenced or posted. Beyond fenced or posted areas, locations accessible to the public, with the exception of walks, roadways, and observation platforms where only transient passage is to be expected, are uncontrolled environments. Without question, residences,

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[6/] In any event, RF radiation exposure levels in studios is normally at a low level, even in instances where the studio is in the vicinity of the transmitting tower. Television antennae have little downward radiation. Thus, even a studio near the base of the usual tall tower supporting the transmitting antenna would not have RF radiation levels exceeding those permissible for uncontrolled environments. Where a studio-to-transmitter link ("STL") antenna is mounted on the roof of a studio, or on an adjacent short tower, the vicinity of the STL antenna, with access restricted to maintenance technicians, should be classified as a controlled environment.

residences, schoolyards, parks, hospitals and the like are uncontrolled environments.

As will be noted in the following section, most remote pickup equipment used in the television service should be "categorically excluded" from consideration of environmental effects. However, for purposes of classifying areas in which such equipment is operated as "controlled" or "uncontrolled" environments, such areas should generally be considered "controlled" environments because persons using this equipment are "aware of the potential for exposure." See Report at 2-4. However, if equipment is being used under conditions in which persons other than the operator could potentially be exposed to RF radiation, the area surrounding the equipment should be classified as an "uncontrolled" environment.

II. The Commission Should Largely Retain the Existing Categorical Exclusions.

The Commission seeks comment on whether it should modify its current categorical exclusions if it adopts the 1992 standard. Notice, at ¶ 19-21. MSTV and NBC believe that adoption of the 1992 ANSI/IEEE standard does not necessitate substantial revision of existing exclusion criteria.

Given the low power levels at which television broadcasters operate studio-to-transmitter links ("STLs"), intercity relays ("ICRs"), and microwave booster stations, it is highly unlikely that any of these operations will result in individuals being exposed to RF radiation at levels in excess of the 1992 ANSI/IEEE standards for uncontrolled environments. Moreover, because STLs and ICRs are used for point-to-point transmissions, the narrow beams are such that the chance of an

individual being exposed to RF radiation from STLs or ICRs is de minimis.

Likewise, remote pickup and low power auxiliaries are unlikely to expose any individuals to RF radiation at levels in excess of the 1992 standard. Base stations in the VHF and UHF bands employ vertical polarization, and usually relatively high gain antennas to communicate more effectively with mobile units. The result is that their antennas have little downward radiation. With only moderate height above a rooftop, such as three meters, uncontrolled environment exposure limits are met easily. In the case of mobile units with antennas mounted on vehicles, the usual power not in excess of 30 watts has little potential for exceeding uncontrolled environment limits and such devices therefore deserve categorical exclusion. At higher power levels (FCC rules allow as much as 100 watts), some restrictions may be necessary in order to avoid RF exposure in excess of the uncontrolled environment limits applicable to people standing nearby. For these higher powers, personnel using the facilities will require training relative to the placement of the mobile vehicles and, perhaps, the placement of traffic cones to limit access to persons other than the operators.[7/]

Television broadcast auxiliary stations, including TV pickup, TV STL, TV relay, TV translator relay, and TV microwave boosters, all employ low power and narrow beam widths. Furthermore, because these operations are located in the microwave

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[7/] Handheld devices used to facilitate remote pickup transmissions should be excluded by definition, assuming that they operate within the power limits set forth in the 1992 standard. See ANSI/IEEE C95.1-1992, § 4.2.1.1.

region of the spectrum, they cannot tolerate obstructions and must be pointed away from people. Thus, use of devices incident to these operations should be categorically excluded from the RF environmental standards because of the limited potential for human exposure to RF radiation. Finally, low power auxiliary stations do not operate at sufficient power levels to justify concern regarding RF radiation exposure.[8/]

III. The Commission Should Adopt Equitable Proof of Compliance Requirements and Should Establish Reasonable Proof of Compliance Criteria.

If the Commission adopts the 1992 ANSI/IEEE RF radiation standards, it should not require immediate proof of compliance with the new standards from television broadcasters. Existing facilities should be allowed to continue operating, and should be required to demonstrate compliance with the new standards only upon the filing of a license renewal or an application for a modification of the existing equipment configuration. See Report, at 21-22.

As the Commission itself has noted, "[t]he procedural requirements of the statute [NEPA] . . . are not applicable to, or triggered by, existing facilities, but only apply to, and are triggered by, applications for new facilities, or renewals or modifications, the approval of which would constitute 'major Federal actions significantly affecting the quality of the human environment.'" RF Radiation First Report and Order, 100 FCC 2d at 553-54. Moreover, in the absence of any hard evidence that the

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8/ Some low power remote microphones designed to be worn inside a person's clothing might require further study to ensure that their operation would not exceed the SAR limits contained in the 1992 standard.

1982 standards are underprotective,[9/] it would be both inefficient and inequitable to require broadcasters who have already demonstrated compliance with the 1982 standards to demonstrate compliance with the 1992 standards immediately after their adoption. Thus, MSTV and NBC believe that the Commission should allow broadcasters to maintain existing equipment configurations that comply with the 1982 standards until a license renewal or material modification is sought. See Notice, at ¶ 26.

With respect to the methods of showing compliance, Notice, at ¶ 27, MSTV and NBC urge the Commission to permit licensees to demonstrate compliance through mathematical calculations and modelling. See Report, at 22-23. Measurement by paper analysis should be permitted in most exposure situations. In this regard, MSTV and NBC believe that the Commission should provide a compliance guide, perhaps consisting of a revised and updated OST Bulletin No. 65, that sets forth the acceptable methods of demonstrating compliance with the new RF radiation standards.[10/] In any event, the revised RF radiation rules should take effect only after such guidance on compliance methodology is available.

IV. The Commission Should Preempt State and Local Government Regulation of RF Radiation.

MSTV has previously urged the Commission to preempt state and local governments from regulating RF radiation emissions

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9/ See ANSI/IEEE C95.1-1992, at 23; see also Comments of the IEEE-USACOMAR, ET Docket No. 93-62, at 1 (Nov. 10, 1993).

10/ A joint effort between the public and private sector to develop a revised OST Bulletin No. 65, similar to the approach used to create the 1985 guide, would be an appropriate means of addressing this need.

independently of the federal government.[11/] The fact of the matter is that local regulators generally lack the resources and the biological and engineering expertise required to regulate RF radiation effectively. Moreover, RF radiation regulation is not an area in which local diversity is necessary or appropriate to accommodate local conditions.

In 1985, the Commission declined to preempt local regulation of RF radiation emissions from federally licensed communications facilities. See RF Radiation First Report and Order, 100 FCC 2d at 557-58. MSTV continues to believe that it is imperative that a uniform, federal standard govern permissible exposure to RF radiation, and NBC shares this concern.

In the intervening nine years, the problem of conflicting regulation has only grown more acute.[12/] The Commission should use this opportunity to revisit and address on the merits the question of federal preemption of state and local RF radiation standards.

CONCLUSION

MSTV and NBC urge the Commission to adopt the 1992 ANSI/IEEE standards insofar as they apply to television broadcasting. In doing so, however, the Commission should exercise care to ensure that it tailors the application of these standards to the practices of specific communications industries, including television broadcasting. Finally, the Commission should

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[11/] See, e.g., Comment of MSTV, Docket No. A-81-43, at 2-8 (Dec. 15, 1986); Comments of MSTV, Public Notice 4918, at 1-4 (Aug. 1, 1986).

[12/] See generally Comments of the TV Broadcasters All Industry Committee, RM 4819, at 2-3 (Aug. 1, 1986); Comments of MSTV, Public Notice 4918, at 3-4 (Aug. 1, 1986).

provide for the uniform regulation of RF radiation by preempting state and local RF radiation regulations.

Respectfully submitted,

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